

INDEX

A

Acoustics, *see* Noise and vibration

Adverse environmental effects, unavoidable, *see* under Environmental Consequences by resource topic

Aesthetics and visual resources, Section 3.9

- Affected environment, 3.9-2-9
- Discussion of resource, general, 3.9-2-3
- Environmental consequences, 3.9-9-11
- Method of evaluation of impacts, 3.9-1-2
- Mitigation, strategies for, 3.9-21-22
- Regulatory requirements, 3.9-1
- Resources by region, 3.9-3-9
- Study area defined, 3.9-2
- Subsequent analysis needed, 3.9-22-23

Affected environment

- Aesthetics and visual resources, 3.9-2-9
- Agricultural lands, 3.8-5-8
- Air quality, 3.3-8-15
- Biological resources and wetlands, 3.15-4-18
- Cultural resources and paleontological resources, 3.12-1-3
- Communities and neighborhoods, 3.7-5-10
- EMI/EMF, 3.6-2-3
- Energy, 3.5-7-13
- Geology and soils, 3.13-4-7
- Hazardous materials and wastes, 3.11-3
- Hydrology and water resources, 3.14-3-8
- Local land use, 3.7-5-10
- Noise and Vibration, 3.4-7-14
- Planning, 3.7-5-10
- Parkland, 3.16-3-4
- Public utilities, 3.10-3-5
- Section 4(f) and 6(f) resources, 3.16-3-4
- Socioeconomics, 3.7-5-10
- Traffic and circulation, 3.1-4-7
- Travel conditions, 3.2-4-6

Agricultural Lands, Section 3.8

- Affected environment, 3.8-5-8
- Discussion of resource, general, 3.8-5
- Environmental consequences, 3.5-8-3.8-11
- Method of evaluation of impacts, 3.8-3-5
- Mitigation, strategies for, 3.8-18
- Regulatory requirements, 3.8-1-2
- Resources by region, 3.8-11-18

Study area defined, 3.8-3-5
Subsequent analysis needed, 3.8-18

Air emissions, *see* Air quality; *see also* under names of individual pollutants

Air quality, Section 3.3

Affected environment, 3.3-8-15
Discussion of resource, general, 3.3-9-10
Environmental consequences, 3.3-15-32
Method of evaluation of impacts, 3.3-4-7
Mitigation, strategies for, 3.3-33
Regulatory requirements, 3.03-1-4
Resources by air basin, 3.3-10-15
Study area defined, 3.3-8-9
Subsequent analysis needed, 3.3-33

Air quality regulations

California, 3.3-1-2
Federal, *see* Clean Air Act

Air travel

Current demand, 1-7
Growth, 1-7
Projected demand, 1-7

Alignments, high-speed train, comparison and descriptions, Chapter 6

Alternatives, Chapter 2

Analyzed in this document, 2-1
Development of, 2-2-11
 Agency involvement in, 2-5-6
 Formulation of, 2-5-2-11
 Public involvement in, 2-5
 Scoping, 2-5
High-speed train, 2-24-98
Modal/System, 2-15-24
No Project, 2-11-15
Rejected from further consideration, 2-31-42
Screening of, 2-8-11

Areas of known controversy, S-5-6

B

Background, *see* Project background and need

Bakersfield to Los Angeles region

Aesthetics and visual resources in, 3.9-5-7
Agricultural lands, 3.8-7-8
Biological resources and wetlands in, 3.15-10-13
Cultural resources and paleontological resources in, 3.12-9-10
Communities and neighborhoods in, 3.7-8-9
Development in, 3.7-8-9
Geology and soils in, 3.13-11
Hazardous materials and wastes in, 3.11-5
Hydrology and water resources in, 3.14-7

- Noise and vibration in, 3.4-13–14
- Planning in, 3.7-8–9
- Parkland in, 3.16-4
- Public utilities in, 3.10-4
- Section 4(f) and 6(f) resources in, 3.16-4
- Socioeconomics in, 3.7-8–9
- Traffic and circulation in, 3.1-6
- Travel conditions in, 3.2-41–42

Bay Area to Merced region

- Aesthetics and visual resources in, 3.9-4–5
- Agricultural lands, 3.8-5–6
- Biological resources and wetlands in, 3.15-6–8
- Cultural resources and paleontological resources in, 3.12-8
- Communities and neighborhoods in, 3.7-8–9
- Development in, 3.7-8–9
- Geology and soils in, 3.13-10
- Hazardous materials and wastes in, 3.11-5
- Hydrology and water resources in, 3.14-6
- Noise and vibration in, 3.4-13
- Planning in, 3.7-8–9
- Parkland in, 3.16-3–4
- Public utilities in, 3.10-4
- Section 4(f) and 6(f) resources in, 3.16-3–4
- Socioeconomics in, 3.7-8–9
- Traffic and circulation in, 3.1-5–6
- Travel conditions in, 3.2-38–39

Best management practices, *see* BMPs

Biological resources and wetlands, Section 3.15

- Affected environment, 3.15-4–18
- Discussion of resource, general, 3.15-5–6
- Environmental consequences, 3.15-18–21
- Method of evaluation of impacts, 3.15-1–3
- Mitigation, strategies for, 3.15-31–32
- Regulatory requirements, 3.15-1
- Resources by region, 3.15-6–18
- Study area defined, 3.15-4–5
- Subsequent analysis needed, 3.15-32–33

Breeding, 3.15-3

C

CAA, *see* Clean Air Act

California Environmental Quality Act, *see* CEQA

California Fish and Game Code
Sections 1601–1607, 3.15-1

Circulation, *see* Traffic and circulation, Section 3.1

Clean Air Act, 1-10

Conformity, transportation, *see* Transportation conformity

Costs and operations, *see* Chapter 4

Cultural resources and paleontological resources, Section 3.12

- Affected environment, 3.12-1-3
- Cultural resource categories, 3.12-6-7
- Environmental consequences, 3.12-17-19
- Method of evaluation of impacts, 3.12-3-6
- Mitigation, strategies for, 3.12-25-27
- Regulatory requirements, 3.12-1-3
- Resources by region, 3.12-8-17
- Study area defined: Area of potential effect, 3.12-6
- Subsequent analysis needed, 3.12-27-28

Cumulative impacts, *see* Section 3.17

CWA, *see* Clean Water Act

D

Delay, travel, *see* Travel delay

Development of project alternatives, *see under* Alternatives

Distribution list, *see* Chapter 11

Dust, *see* PM10

E

Earthquake hazards, *see* Geology and Soils

Economic growth, *see* Chapter 5

Electrical service, *see* Public utilities

EMI/EMF, Section 3.6

- Affected environment, 3.6-2-3
- Discussion of resource, general, 3.6-2-3
- Environmental consequences, 3.6-3-5
- Method of evaluation of impacts, 3.6-2
- Mitigation, strategies for, 3.6-5
- Potentially affected land uses and populations, 3.6-3
- Regulatory requirements, 3.6-1
- Study area defined, 3.6-2
- Subsequent analysis needed, 3.6-5-6

Endangered Species Act, state, *see* California Endangered Species Act

Energy, Section 3.5

- Affected environment, 3.5-7-13
- Discussion of resource, general, 3.5-7-13
- Environmental consequences, 3.5-12-14
- Method of evaluation of impacts, 3.5-2-6

- Mitigation, strategies for, 3.5-23–24
- Regulatory requirements, 3.5-1–2
- Resources by region, 3.5-14–22
- Study area defined, 3.5-6–7
- Subsequent analysis needed, 3.5-24

Environmental conditions, *see* Affected environment

Environmental consequences

- Aesthetics and visual resources, 3.9-9–11
- Agricultural lands, 3.5-8–3.8-11
- Air quality, 3.3-15–32
- Biological resources and wetlands, 3.15-18–21
- Cultural resources and paleontological resources, 3.12-17–19
- Communities and neighborhoods, 3.7-11–12
- Development, 3.7-11–12
- EMI/EMF, 3.6-3–5
- Energy, 3.5-12–14
- Geology and soils, 3.13-7–9
- Hazardous materials and wastes, 3.11-3–5
- Hydrology and water resources, 3.14-9–12
- Local land use, 3.7-11–12
- Noise and vibration, 3.4-15–16
- Planning, 3.7-11–12
- Parkland, 3.16-4–6
- Public utilities, 3.10-5–7
- Section 4(f) and 6(f) resources, 3.16-4–6
- Socioeconomics, 3.7-11–12
- Traffic and circulation, 3.1-7–13
- Travel conditions, 3.2-6–37

Environmental effects, Environmental impacts, *see* Environmental consequences

Environmental justice, *see* Section 3.7

Environmental setting, *see* Affected Environment

F

Federal Clean Water Act, *see* Clean Water Act

Fish and Game Code, *see* California Fish and Game Code

Funding, *see* Project funding

G

Geology and Soils, Section 3.13

- Affected environment, 3.13-4–7
- Discussion of resource, general, 3.13-4–6
- Environmental consequences, 3.13-7–9
- Geology and geomorphology by region, 3.13-6–7
- Method of evaluation of impacts, 3.13-1–4
- Mitigation, strategies for, 3.13-13–14
- Regulatory requirements, 3.13-1

Study area defined, 3.13-4
Subsequent analysis needed, 3.13-14

H

Hazardous materials and wastes, Section 3.11
Affected environment, 3.11-3
Environmental consequences, 3.11-3-5
Method of evaluation of impacts, 3.11-1-3
Mitigation, strategies for, 3.11-5
Regulatory requirements, 3.11-1
Resources by region, 3.11-3
Study area defined, 3.11-3
Subsequent analysis needed, 3.11-5-6

Hazardous materials regulations
Federal, 3.11-1
State, 3.11-1

Hazardous waste, *see* Hazardous materials and wastes

High-Speed Rail Authority, *see* California High-Speed Rail Authority

High-speed train system
Alternatives considered, S-3-4
Need for, 1-4-11
Purpose of, 1-3-4

Hydrology and water resources, Section 3.14
Affected environment, 3.14-3-8
Discussion of resource, general, 3.14-3-5
Environmental consequences, 3.14-9-12
Method of evaluation of impacts, 3.14-2-3
Mitigation, strategies for, 3.14-18-19
Regulatory requirements, 3.14-1-2
Resources by region, 3.14-6-8
Study area defined, 3.14-3
Subsequent analysis needed, 3.14-20

I

Impacts, *see* Environment Consequences by resource

Inhalable particulate matter, *see* PM10

Intercity transportation
Defined, 1-1
System capacity, 1-7

Issues of known controversy, *see* Areas of known controversy

K

Known controversy, *see* Areas of known controversy

L

Level of service (LOS), *see* Traffic and circulation, Section 3.1

Local land use, Section 3.7

- Affected environment, 3.7-5-10
- Environmental consequences, 3.7-11-12
- Method of evaluation of impacts, 3.7-1-5
- Mitigation, strategies for, 3.7-26-27
- Regulatory requirements, 3.7-1
- Resources by region, 3.7-5-10
- Study area defined, 3.7-5
- Subsequent analysis needed, 3.7-27

Los Angeles to San Diego region

Via the Inland Empire

- Aesthetics and visual resources in, 3.9-7-8
- Biological resources and wetlands in, 3.15-13-16
- Cultural resources and paleontological resources in, 3.12-10
- Communities and neighborhoods in, 3.7-9-10
- Development in, 3.7-9-10
- Farmland and agriculture in, 3.8-8
- Geology and soils in, 3.13-11-12
- Hazardous materials and wastes in, 3.11-5
- Hydrology and water resources in, 3.14-7-8
- Noise and vibration in, 3.4-14
- Planning in, 3.7-9-10
- Parkland in, 3.16-4
- Public utilities in, 3.10-4-5
- Section 4(f) and 6(f) resources in, 3.16-4
- Socioeconomics in, 3.7-9-10
- Traffic and circulation in, 3.1-6
- Travel conditions in, 3.2-42-43

Via Orange County

- Aesthetics and visual resources in, 3.9-8-9
- Biological resources and wetlands in, 3.15-16-18
- Cultural resources and paleontological resources in, 3.12-10-11
- Communities and neighborhoods in, 3.7-10
- Development in, 3.7-10
- Farmland and agriculture in, 3.8-8
- Geology and soils in, 3.13-12
- Hazardous materials and wastes in, 3.11-5
- Hydrology and water resources in, 3.14-8
- Noise and vibration in, 3.4-14
- Planning in, 3.7-10
- Parkland in, 3.16-4
- Public utilities in, 3.10-5
- Section 4(f) and 6(f) resources in, 3.16-4
- Socioeconomics in, 3.7-10
- Traffic and circulation in, 3.1-6
- Travel conditions in, 3.2-43-45

M

Mitigation, strategies for, *see under individual resource area in*

N

National Historic Preservation Act, Section 106, 3.12-1

Native American consultation, 3.12-3

Need for project, 1-4-11

No Action Alternative, *see* No Project Alternative

No Project Alternative, 2-11-2-15

NOI, *see* Notice of intent

Noise and Vibration, Section 3.4

Affected environment, 3.4-7-14

Discussion of resource, general, 3.4-7-12

Environmental consequences, 3.4-15-16

Method of evaluation of impacts, 3.4-2-7

Mitigation, strategies for, 3.4-24-26

Regulatory requirements, 3.4-1-2

Resources by region, 3.4-12-14

Study area defined, 3.4-7

Subsequent analysis needed, 3.4-26-27

Notice of intent, 2-5

Notice of preparation, 2-5

NOP, *see* Notice of preparation

O

Objectives, *see* Project objectives

Organization of this document

P

Paleontological resources, *see* Cultural resources and paleontological resources

Parklands, *see* Local land use, Section 4(f) and 6(f) resources, Section 3.16

Particulate matter, *see* PM10

Particulates, *see* PM10

Planning, *see* Local land use

PM10, 3.3-1

Population and housing, *see* Local land use

Population increases, projected, 1-5

Projected ridership 1-7

Projected travel demand, 1-5

Public services, *see* Public utilities below

Public Utilities, Section 3.10

- Affected environment, 3.10-3-5
- Discussion of resource, general, 3.10-3
- Environmental consequences, 3.10-5-7
- Method of evaluation of impacts, 3.10-2-3
- Mitigation, strategies for, 3.10-11
- Regulatory requirements, 3.10-1-2
- Resources by region, 3.10-4-5
- Study area defined, 3.10-3
- Subsequent analysis needed, 3.10-11-12

Purpose of project, 1-3-1-4

R

Reliability

- Defined, 1-9
- of high-speed train systems

S

Sacramento to Bakersfield region

- Aesthetics and visual resources in, 3.9-5
- Agricultural lands, 3.8-6-7
- Biological resources and wetlands in, 3.15-8-10
- Cultural resources and paleontological resources in, 3.12-8-9
- Communities and neighborhoods in, 3.7-7-8
- Development in, 3.7-7-8
- Geology and soils in, 3.13-10-11
- Hazardous materials and wastes in, 3.11-5
- Hydrology and water resources in, 3.14-6-7
- Noise and vibration in, 3.4-13
- Planning in, 3.7-7-8
- Parkland in, 3.16-4
- Public utilities in, 3.10-4
- Section 4(f) and 6(f) resources in, 3.16-4
- Socioeconomics in, 3.7-7-8
- Traffic and circulation in, 3.1-6
- Travel conditions in, 3.2-40-41

Section 4(f) and 6(f) resources, Section 3.16

- Affected environment, 3.16-3-4
- Defined, 3.16-1
- Discussion of resource, general, 3.16-3
- Environmental consequences, 3.16-4-6
- Method of evaluation of impacts, 3.16-2
- Mitigation, strategies for, 3.16-11-12
- Regulatory requirements, 3.16-1-2

Resources by region, 3.16-3-4
Study area defined, 3.16-3
Subsequent analysis needed, 3.16-12-13

Seismic hazards, *see* Geology and soils

Seismicity, *see* Geology and soils

Social environment, *see* Local land use

Socioeconomics, *see* Local land use, Section 3.7

Soils, *see* Geology and soils

Streambed Alteration Agreement, *see* California Fish and Game Code, Sections 1601-1607

Study regions

See under name of individual study region

Superfund Act, *see* Comprehensive Environmental Response, Compensation, and Liability Act

T

Traffic and circulation, Section 3.1

Affected environment, 3.1-4-7
Discussion of resource, general, 3.1-5
Environmental consequences, 3.1-7-13
Method of evaluation of impacts, 3.1-2-4
Mitigation, strategies for, 3.1-23-24
Regulatory requirements, 3.1-1-2
Resources by region, 3.1-5-6
Study area defined, 3.1-4
Subsequent analysis needed, 3.1-24

Travel conditions, Section 3.2

Affected environment, 3.2-4-6
Discussion of travel conditions, general, 3.2-4-6
Environmental consequences, 3.2-6-37
High-speed train alignment options comparison by region, 3.2-37-45
Method of evaluation of impacts, 3.2-1-4
Study area defined, 3.2-4

Travel time

Defined, 1-8
Between city pairs, estimated (air) , 1-8
Between city pairs, estimated (conventional rail) , 1-8
Between city pairs, estimated (auto) , 1-8

Transportation, *see* Traffic and circulation, Section 3.1, *see also under names of individual roadways*

U

UBC, *see* Uniform Building Code

V

Vibration, *see* Noise and Vibration

Visual resources, *see* Aesthetics and visual resources

W

Weather, *see* Climate

Wetlands, *see* Biological Resources and wetlands